

Programming in Java Lab

Assignment 4

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Q1. Write a menu-driven Java Program for the following: There are 52 cards in a deck, each of which belongs to one of four suits and one of 13 ranks.

Should have methods:

- a) createDeck() //Can also add this method as constructor
- b) printDeck()
- c) printCard()
- d) sameCard() //Card which is from same suit
- e) compareCard() //Card having same rank or number
- f) findCard() //Search for particular card
- g) dealCard() //Print 5 random cards
- h) shuffleDeck() //Randomize the deck

Main.java

```
public class Main {  
    public static void main(String[] args) {  
        Deck deck = new Deck();  
        System.out.println(deck.getDeck());  
        System.out.println(deck.getCard());  
    }  
}
```

Card.java

//Card.java

```
public class Card{
```

```
    private int value;
```

```
    private String suit;
```

```
    public Card(int value, String suit){
```

```
        this.value = value;
```

```
        this.suit = suit;
```

```
    }
```

```
    public int getValue(){
```

```
        return value;
```

```
    }
```

```
    public String getSuit(){
```

```
        return suit;
```

```
    }
```

```
    public void setSuit(String suit){
```

```
        this.suit = suit;
```

```
    }
```

```
    public void setalue(int value){
```

```
        this.value = value;
```

```
    }
```

```
    public String toString(){
```

```
        return value + " of " + suit;
    }
}
```

Deck.java

```
import java.util.*;

public class Deck {
    private ArrayList<Card> cards;

    public Deck() {
        this.cards = new ArrayList<Card>();

        String[] values = {"A", "2", "3", "4", "5", "6", "7", "8", "9", "10", "J", "Q", "K"};
        String[] suits = {"Hearts", "Diamonds", "Clubs", "Spades"};
        for (int i = 0; i < suits.length; i++) {
            for (int j = 0; j < values.length; j++) {
                this.cards.add(new Card(j + 1, suits[i]));
            }
        }
        Collections.shuffle(this.cards);
    }

    public ArrayList<Card> getDeck() {
        return cards;
    }
}
```

```
public Card getCard() {  
    return cards.get(0);  
}  
}
```

Github Link :- <https://github.com/Jayaditya177/PIJ/tree/main/Assignment%204>